

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2004/000591

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C07D471/04, A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C07D471/04, A61K31/437, C07D, A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNKI, CNPAT, WPI, PAJ, EPODOC, CA, REGISTRY(STN)

(Harmin+ not harming), carboline+, cancer+, tumor+, cancer+, metastas+, carcino+, neoplas+, lump+, malignan+, onco+, benign, hyperplas+, leuk?em+, cytostat+, cytotoxic+, chemotherap+, sarcoma+, lymphom+, myeloma+, melanom+, proliferat+, 骆驼蓬碱, 卡琳, 癌, 肿瘤, 增生, 细胞毒, 恶性, 良性, 白血病, et al, formula search.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Junko Ishida, et al: "Anti tumor agents 201. <sup>1</sup> cytotoxicity of harmine and $\beta$ -carboline analogs", Bioorganic & Medicinal Chemistry Letters, vol.9, No. 23, (1999), pages 3319-3324 --Page 3320 compounds, particularly compound 20, Table 2, page 3323 2nd paragraph.	1-19, 33-34
X	Junko Ishida, et al: "Anti-AIDS Agents. 46. <sup>1</sup> Anti-HIV Activity of Harman, an Anti-HIV Principle from <i>Symplocos setchuensis</i> , and Its Derivatives", Journal of Natural Products, vol. 64, no. 7, (2001), pages 958-960 --Page 959 table 2, compound 25	1-3,5-6,8,10

☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 27 Aug, 2004(27. 08. 2004)	Date of mailing of the international search report 09 · SEP 2004 (09 · 09 · 2004)
Name and mailing address of the ISA/ 6 Xitucheng Rd., Jimen Bridge, Haidian District, 100088 Beijing, China Facsimile No. 86-10-62019451	Authorized officer Telephone No. (86-10)62085593

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2004/000591

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Robert H. Dodd, et al: "Mild synthesis of N-alkyl- and N-acyl- $\beta$ -carboline anhydro-bases using trifluoromethanesulfonates", Heterocycles, vol. 29, no. 2, (1989), pages 365-380.  --page 366 Table I, compounds 7-8, 10-13.	1-11,14
X	CN1215333A(HOFFMANN LA ROCHE & CO AG F), Apr. 28, 1999 (1999-04-28)  --Claim 2	28-29, 32
X	US4628057(Tanabe Seiyaku Co., Ltd.)Dec. 9, 1986 (1986-12-09) ,  --example 43, 44, 45, 46, 47	28
X	EP 0148660A1(CENT NAT RECH SCI(CNRS)) Jul. 17, 1985 (1985-07-17)  --example 2	30
X	CN1358720A(Peking University) Jul. 17, 2002 (2002-07-17)  --Claim 1, 18, 20, example 17	1-34
A	DE19807993A1(BAYER AG)Sep. 2, 1999 (1999-09-02)  --The whole document	1-18
A	US4371536(A/S Ferrosan; Scherling AG) Feb. 1, 1983 (1983-02-01)  --The whole document	1-32

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.


PCT/CN2004/000109

Patent document Cited in search report	Publication date	Patent family Member(s)	Publication date
CN1215333A	1999-04-28	ES2169857T	2002-07-16
		WO9737658 A1	1997-10-16
		AU2506997 A	1997-10-29
		EP0891187 A1	1999-01-20
		BR9708480 A	1999-04-13
		AU710079 B	1999-09-16
		IT1283574 B	1998-04-22
		US6069150 A	2000-05-30
		JP2000508302T	2000-07-04
		IT1286060 B	1998-07-07
		MX9807935 A1	1999-04-01
		KR2000005175 A	2000-01-25
		EP0891187 B1	2002-01-30
		DE69710182E	2002-03-14
		MX204159 B	2001-09-10
US4628057	1986-12-09	EP0145304 A	1985-06-19
		JP60120877 A	1985-06-28
		ES8607968 A	1986-11-16
		EP0145304 B	1988-04-20
		DE3470541G	1988-05-26
		CA1254210 A	1989-05-16
		KR9007398 B	1990-10-08
EP0148660A	1985-07-17	FR2555988 A	1985-06-07
		JP60139692 A	1985-07-24
US4371536A	1983-02-01	EP0030254 A	1981-06-17
		PT71744 A	1981-02-10
		NO8002546 A	1981-03-23
		DK8003703 A	1981-03-30
		FIS002720 A	1981-04-30
		JP56043283 A	1981-04-21
		ZA8005383 A	1981-07-14
		DE3015816 A	1981-10-29
		DE3023567 A	1982-01-21
		DD152935 A	1981-12-16
		CA1150246 A	1983-07-19
		RO80265 A	1983-04-30
		HU28753 A	1983-12-28
		CS8005919 A	1983-09-15

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
PCT/CN2004/000109

Patent document Cited in search report	Publication date	Patent family Member(s)	Publication date
		EP0030254 B	1984-10-31
		DE3069559G	1984-12-06
		SU1114335 A	1984-09-15
		IL60906 A	1985-11-29
		JP2034952B B	1990-08-07
		US5010077 A	1991-04-23
		DK168292B B	1994-03-07

国际检索报告		国际申请号 PCT/CN2004/000591
A. 主题的分类		
IPC7: C07D471/04, A61P35/00		
按照国际专利分类表(IPC)或者同时按照国家分类和 IPC 两种分类		
B. 检索领域		
检索的最低限度文献(标明分类系统和分类号)		
IPC7: C07D471/04, A61K31/437, C07D, A61K		
包含在检索领域中的除最低限度文献以外的检索文献		
在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))		
CNKI, CNPAT, WPI, PAJ, EPODOC, CA, REGISTRY(STN)		
(Harmin+ not harming), carboline+, cancer+, tumor+, cancer+, metasta+, carcino+, neoplas+, lump+, malignan+, onco+, benign, hyperplas+, leuk?em+, cytostat+, cytotoxic+, chemotherap+, sarcoma+, lymphom+, myeloma+, melanom+, proliferat+, 骆驼蓬碱, 咋琳, 癌, 肿瘤, 增生, 细胞毒, 恶性, 良性, 白血病, 等等, 分子式检索。		
C. 相关文件		
类 型*	引用文件, 必要时, 指明相关段落	相关的权利要求
X	Junko Ishida, et al: "Anti tumor agents 201. <sup>1</sup> cytotoxicity of harmine and $\beta$ -carboline analogs", Bioorganic & Medicinal Chemistry Letters, vol.9, No. 23, (1999), pages 3319-3324 --第 3320 页化合物, 特别是化合物 20, 表 2, 第 3323 页第 2 段.	1-19, 33-34
X	Junko Ishida, et al: "Anti-AIDS Agents. 46. <sup>1</sup> Anti-HIV Activity of Harman, an Anti-HIV Principle from <i>Symplocos setchuensis</i> , and Its Derivatives", Journal of Natural Products, vol. 64, no. 7, (2001), pages 958-960 --第 959 页表 2, 化合物 25	1-3, 5-6, 8, 10
<input checked="" type="checkbox"/> 其余文件在 C 栏的续页中列出。 <input checked="" type="checkbox"/> 见同族专利附件。		
* 引用文件的具体类型: "A" 认为不特别相关的表示了现有技术一般状态的文件 "E" 在国际申请日的当天或之后公布的在先申请或专利 "L" 可能对优先权要求构成怀疑的文件, 为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件 "O" 涉及口头公开、使用、展览或其他方式公开的文件 "P" 公布日先于国际申请日但迟于所要求的优先权日的文件 "T" 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件 "X" 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性 "Y" 特别相关的文件, 当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时, 要求保护的发明不具有创造性 "&" 同族专利的文件		
国际检索实际完成的日期 27.8 月 2004 (27.08.2004)		国际检索报告邮寄日期 09. 9 月 2004 (09. 09. 2004)
中华人民共和国国家知识产权局(ISA/CN) 中国北京市海淀区衙门桥西土城路 6 号 100088 传真号: (86-10)62019451		授权官员 电话号码: (86-10)62085593 

## C(续). 相关文件

类 型	引用文件, 必要时, 指明相关段落	相关的权利要求
X	Robert H. Dodd, et al: "Mild synthesis of N-alkyl- and N-acyl- $\beta$ -carboline anhydro-bases using trifluoromethanesulfonates", Heterocycles, vol. 29, no. 2, (1989), pages 365-380. --第 366 页 表 I, 化合物 7-8, 10-13.	1-11,14
X	CN1215333A(弗·哈夫曼—拉罗切有限公司), 1999 年 4 月 28 日 (1999-04-28) --权利要求 2	28—29, 32
X	US4628057(Tanabe Seiyaku Co., Ltd.)1986 年 12 月 9 日 (1986-12-09), 实施例 43、44、45、46、47	28
X	EP 0148660A1(CENT NAT RECH SCI(CNRS))1985 年 7 月 17 日 (1985-07-17) --实施例 2	30
X	CN1358720A(北京大学)2002 年 7 月 17 日 (2002-07-17)  --权利要求 1、18、20、实施例 17	1—34
A	DE19807993A1(BAYER AG)1999 年 9 月 2 日 (1999-09-02) --全文	1-18
A	US4371536(A/S Ferrosan; Scherling AG)1983 年 2 月 1 日 (1983-02-01) --全文	1-32

国际检索报告  
关于同族专利的信息

国际申请号  
PCT/CN2004/000591

检索报告中引用的 专利文件	公布日期	同族专利	公布日期
CN1215333A	1999-04-28	ES2169857T	2002-07-16
		WO9737658 A1	1997-10-16
		AU2506997 A	1997-10-29
		EP0891187 A1	1999-01-20
		BR9708480 A	1999-04-13
		AU710079 B	1999-09-16
		IT1283574 B	1998-04-22
		US6069150 A	2000-05-30
		JP2000508302T	2000-07-04
		IT1286060 B	1998-07-07
		MX9807935 A1	1999-04-01
		KR2000005175 A	2000-01-25
		EP0891187 B1	2002-01-30
		DE69710182E	2002-03-14
		MX204159 B	2001-09-10
US4628057	1986-12-09	EP0145304 A	1985-06-19
		JP60120877 A	1985-06-28
		ES8607968 A	1986-11-16
		EP0145304 B	1988-04-20
		DE3470541G	1988-05-26
		CA1254210 A	1989-05-16
		KR9007398 B	1990-10-08
EP0148660A	1985-07-17	FR2555988 A	1985-06-07
		JP60139692 A	1985-07-24
US4371536A	1983-02-01	EP0030254 A	1981-06-17
		PT71744 A	1981-02-10
		NO8002546 A	1981-03-23
		DK8003703 A	1981-03-30
		FI8002720 A	1981-04-30
		JP56043283 A	1981-04-21
		ZA8005383 A	1981-07-14
		DE3015816 A	1981-10-29
		DE3023567 A	1982-01-21
		DD152935 A	1981-12-16
		CA1150246 A	1983-07-19
		RO80265 A	1983-04-30
		HU28753 A	1983-12-28
		CS8005919 A	1983-09-15

国际检索报告  
关于同族专利的信息

国际申请号  
PCT/CN2004/000591

检索报告中引用的 专利文件	公布日期	同族专利	公布日期
		EP0030254 B	1984-10-31
		DE3069559G	1984-12-06
		SU1114335 A	1984-09-15
		IL60906 A	1985-11-29
		JP2034952B B	1990-08-07
		US5010077 A	1991-04-23
		DK168292B B	1994-03-07